Nellis AFB, NV ‘Solar Power System’ Photovoltaic Power Project

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ACC/A7OE

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AGENDA

- PROJECT OVERVIEW
- TIMELINE TO DATE
- LESSONS LEARNED
- TAKE AWAYS

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Why PV - Why Nellis

- Support renewable energy goals
  - Energy Policy Act of 2005 - 7.5% by 2013
  - DoD goal - 25% by 2025
- DoD study identified Nellis as ideal PV site
- Nevada has most aggressive renewable energy laws in the U.S.
  - 15% of all electricity must be renewable by 2013
  - Created strong market for Renewable Energy Credits
- Unsolicited interest from multiple developers

Project Objectives

- All power produced will be used by Nellis AFB
- Power output directly connection to base grid
- Developer:
  - Designs, finances, builds, and operates the PV array
  - Sells PV power to Nellis at proposed price/escalation
- Nellis AFB:
  - Signs indefinite utility purchase contract with developer
    - May cancel with one year notification
  - Provides land for PV array via a ground lease

Guiding Principal

Barrow's Theorem

Every project is built upon the three basic 'pillars'

- **Engineering (easy for engineers)**
- **Economics (not too hard)**
- **Politics (real hard for engineers)**

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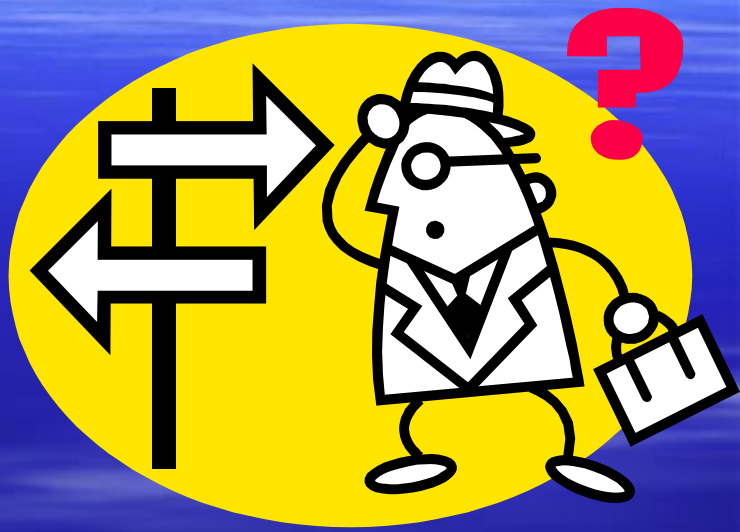
Project Team

- **Small dedicated core team**
  - Flexible
  - Quick reaction
  - Increased feeling of ownership / empowerment
- **Required core expertise:**
  - Contracting
  - Technical
  - Legal
  - Economics

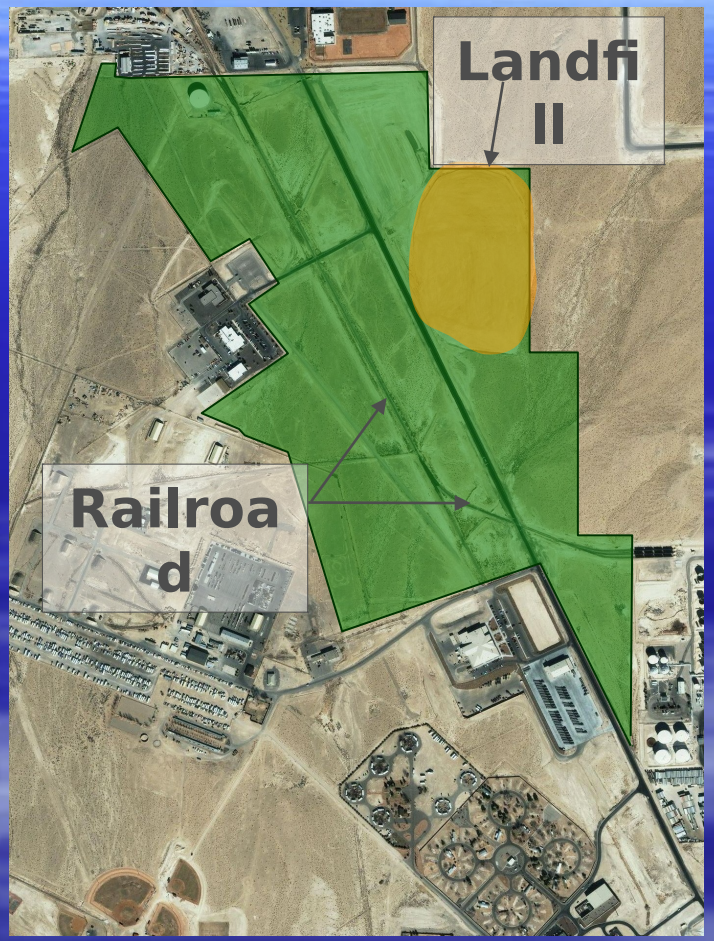
Contracting Strategy

- Potential contract vehicles
  - ESPC/UESC
  - EUL
  - Utility Purchase
  - IFB
- Funding Sources considered
  - Third party
  - Power purchase
  - Capital investment



Project Site

- 140 acres on Nellis AFB
  - Desert land
  - Among military facilities
  - Includes 45 acre landfill
  - Adjacent industrial area



TIMELINE OF EVENTS

April '04
Contractor submits unsolicited proposal to NPC

Aug 31, '04
ACC/CE letter of interest sent to Power Light

May 4 '05
NPC Issues RFP for renewable power

Feb 26 '06
NPC requests Nellis chose developer

Jan 3 '06
NPC start discussions with Tier 1 proposer

April 18 '06
Nellis issues RFP

March 7 '06
Acquisition team formed

May 24 '06
Model lease added to RFP

June 23 '06
Source selection begins

June 16 '06
Proposals received

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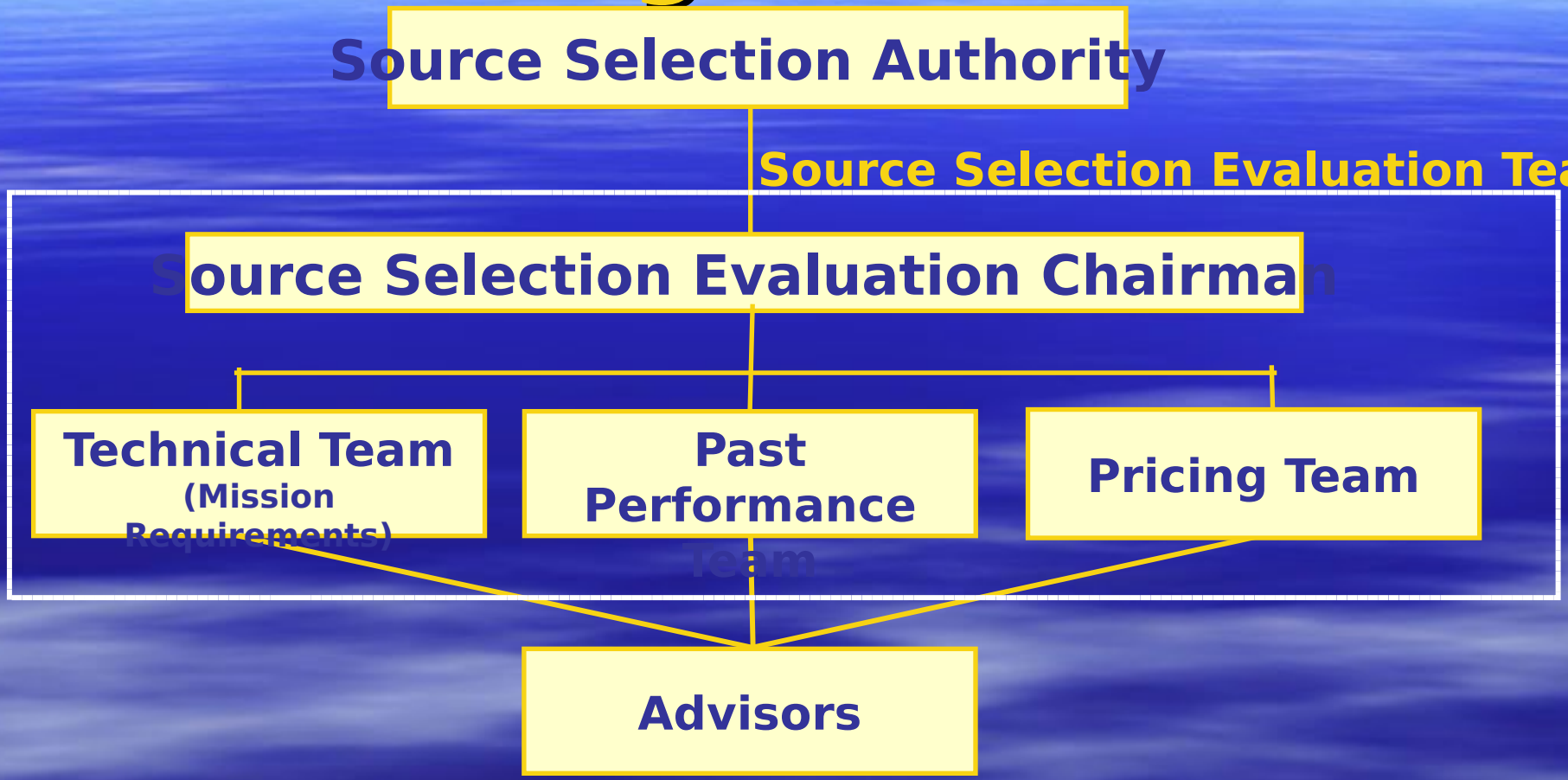
Selection Strategy

- Selection options
  - Best Value
    - Subjective, protest may be more difficult to defend
    - More flexibility in selection
    - Not necessarily lowest cost
  - Low Bid
    - Objective, higher risk of performance problems
  - Technically Acceptable Low Bid
    - Good compromise, low risk of poor contractor, lower protest risk, best price

Selection Organization

- Separate organization and management chain of command
- Sole purpose is to accomplish proposal evaluations in accordance with RFP
- Consists of a source-selection authority and evaluation team

Selection Organization



Technical Evaluation

Technically Acceptability Phase

- **Subjective phase**
  - Marginal proposals have opportunity to become acceptable
  - Eliminate clearly unacceptable proposals from competitive range
  - Final competitive range compete in price phase

* Note – no offerors were excluded from price competition

Technical Evaluation

- Mission Requirements - Demonstrate a definitive plan to meet requirements
  - Performance Plan
  - Financial Capability
  - Implementation Plan
  - Quality Management Plan
- Past Performance - Demonstrate successful past performance on like/similar projects
- Price – Demonstrate price realism/reasonability
- All three factors are of equal importance

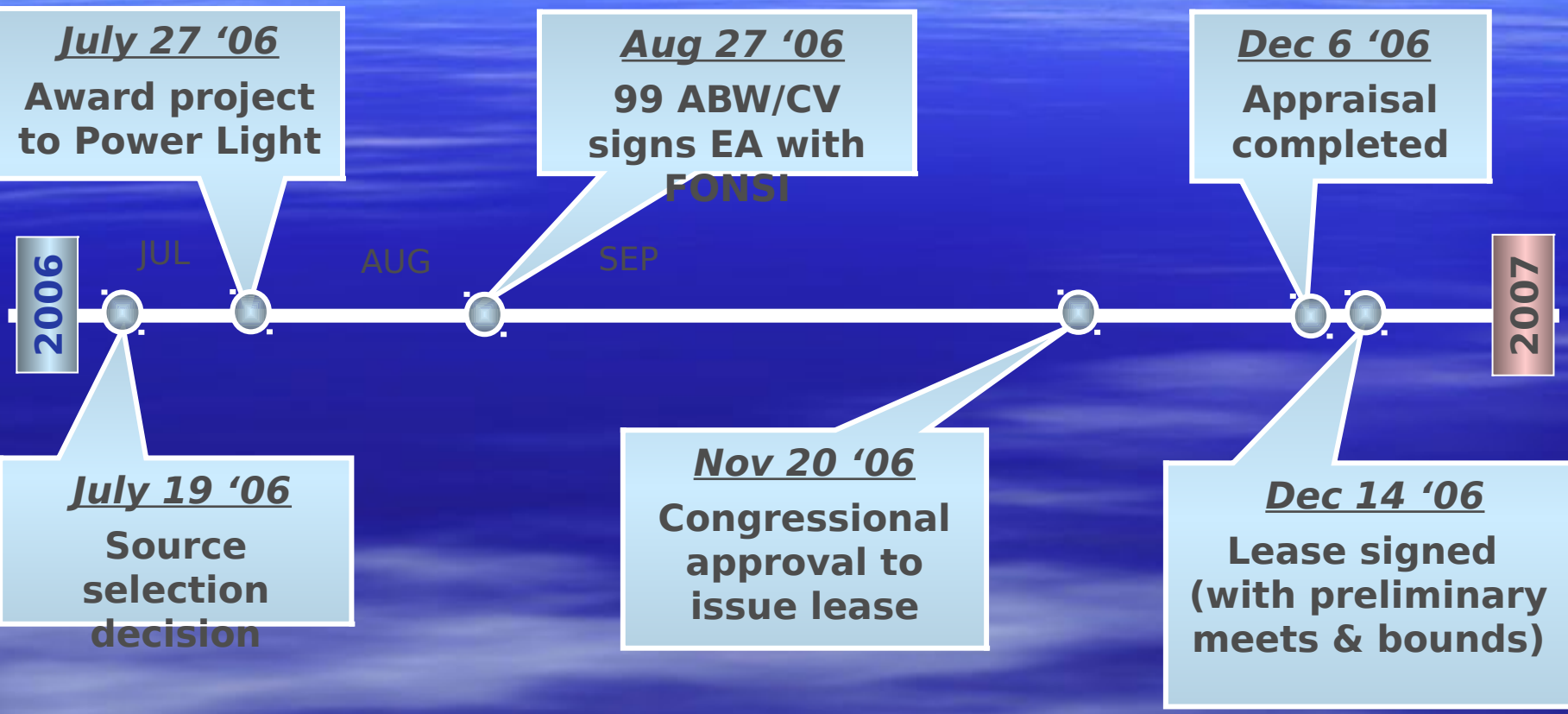
Price Comparison

Price competition phase

- **Objective phase**
  - Single cost value computed for each proposal
  - Present value of costs for PV power using:
    - Cost per kwh a bid in proposal
    - Annual escalation factor as bid in proposal
    - Discount factor from OMB Circular A-94

- **Successful offeror is lowest price bid from competitive range**

TIMELINE OF EVENTS



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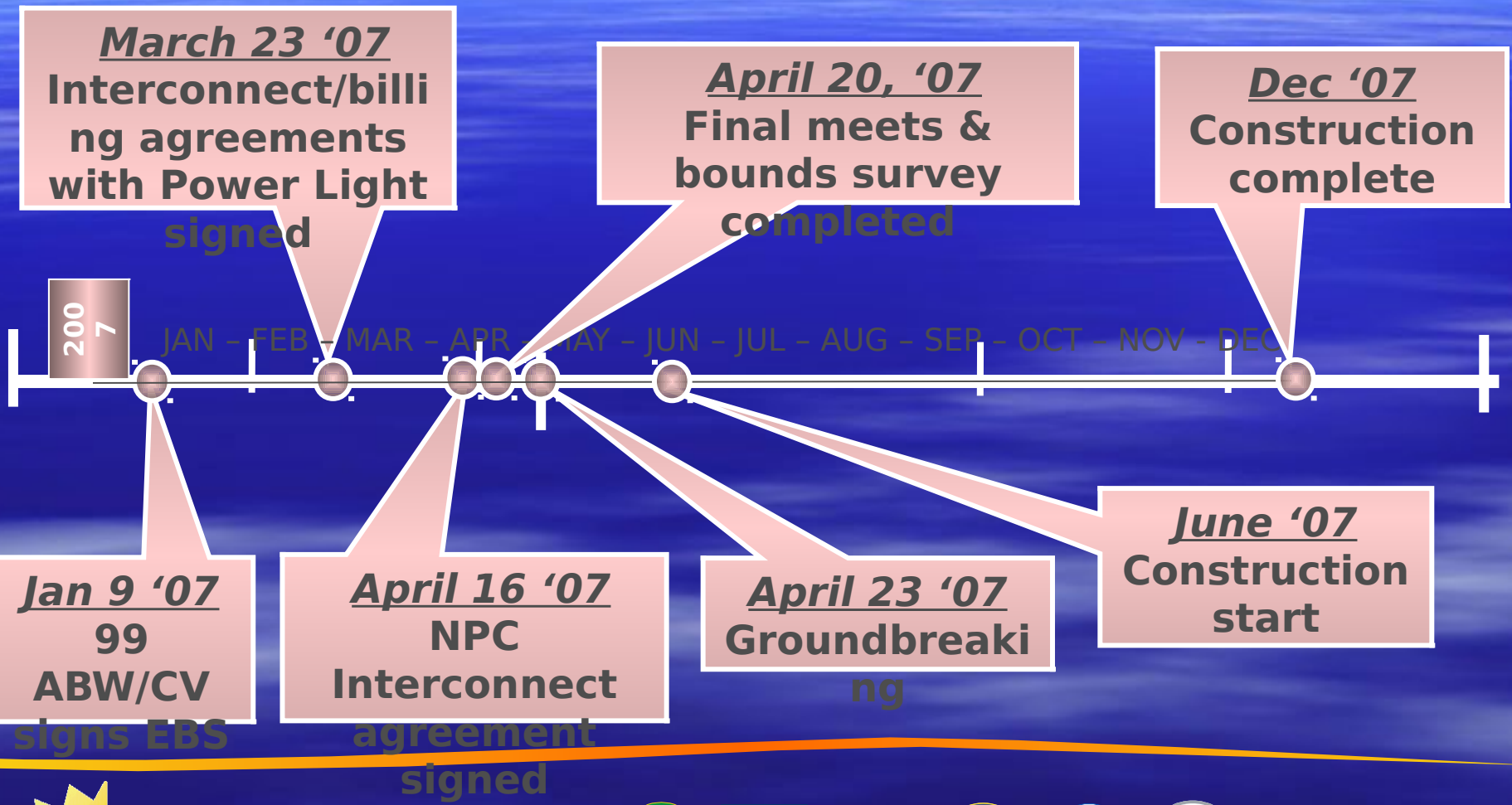
Evaluation Results

- Three proposals received
- Single round of clarifications took place
- All proposals placed in the competitive range
- Technical and past performance evaluations completed before pricing disclosed to technical evaluation and past performance team members
- Present value costs were then computed

Power Light offered lowest present value price

TIMELINE OF EVENTS


March 23 '07
Interconnect/billing agreements with Power Light signed
April 20, '07
Final meets & bounds survey completed
Dec '07
Construction complete
2007
JAN – FEB – MAR – APR – MAY – JUN – JUL – AUG – SEP – OCT – NOV - DEC
Jan 9 '07
99 ABW/CV signs EBS
April 16 '07
NPC Interconnect agreement signed
April 23 '07
Groundbreaking
June '07
Construction start

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Groundbreaking Ceremony

- Aug 23, 2007
- Attended by over 200 guests, dignitaries, and speakers

PROJECT SUMMARY

- Largest PV array in Americas
  - 14.2MW peak output
  - Supplies 25% of base electricity
- Designed & implemented by Sun Power Corp
- Owned & operated by MMA Renewables
- Nevada Power to purchase RECs
  - Critical to economic viability
- Nellis AFB Lessor & purchaser of power
- 20 year land lease on 140 acre site
- Aggressive construction schedule
  - Start in June 07, Complete by December 07

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LESSONS LEARNED

- **Competitive RFP solicitation**
  - Insures least cost for the AF and
  - Minimizes potential for protest
- **Indefinite term utility contract**
  - Can be approved and awarded at base level
  - Long tem lease provides stability required by investors
- **Small dedicated core team (5-8 people)**
  - Establish direct, frequent communication
  - Conduct meetings at major milestones
  - Streamlines RFP development and evaluation process

LESSONS LEARNED

- Secure leadership support up front
- Involve all stakeholders from the start
  - Real property, contracting, legal, environmental, engineering, security, etc
- Include model interconnect agreements in RFP
- Clearly rank proposals in order and document
  - Document non-conforming proposals
  - Provides additional support in case of a protest
- Formalize business case for leadership

LESSONS LEARNED

- Review proposals for stated or implied contingencies and ensure they are eliminated
- Secure funding for EA, EBS, legal survey, and land appraisal before the project moves forward
  - Complete these tasks early to avoid delays
- Clearly define calculation for “low bid” in RFP
  - Base the calculation on life cycle cost

LESSONS LEARNED

- Establish primary and alternate representatives for all stakeholders
  - Insures continuity as primary members may not always be available
- Ensure functional experts are readily available
  - Ensure quick responses to proposer questions
- Educate construction inspectors about unique requirements for contract vehicle used
  - Many normal construction requirements do not apply

TAKE AWAYS

- Find win-win opportunities
- Form dedicated core action team
- Compete the contract

Think Big!

Questions?

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